Annotation Imaging Markup (AIM)

Annotation Imaging Markup (AIM)

AIM is supported by the Imaging Knowledge Center at the University of Maryland School of Medicine.
For more information on receiving support for this tool, please visit the Imaging Knowledge Center.

Contents of this Page

Quick Links

- Imaging KC Forum
- Imaging Workspace
- Imaging KC Twitter Page
- caBIG® Support Service Providers
- caBIG® Website

About AIM

AIM is the first project to propose and create a "standard" means of adding information and knowledge to an image in a clinical environment, in order to create a future in which image content can be easily and automatically searched. AIM provides a solution to the following current imaging challenges:

- No agreed upon syntax for annotation and markup
- No agreed upon semantics to describe annotations
- No standard format (DICOM, XML, HL7, etc.) for annotations and markup

The solution is made up of various components, including the AIM Model, AIM Template Manager, and AIM Data Service. The AIM Model captures the descriptive information for an image, with user-generated graphical symbols placed on the image into a single common information source. The AIM Template Manager allows the user to generate a set of well-defined questions and answer choices to facilitate collecting the annotations and markup of an image in a XML document. The AIM Data Service then stores the XML documents in a database via caGrid.

Return to the Contents of this Page

What's New

Version 3.0 of the caBIG® AIM Data Model and Toolkit was released in October 2010. It includes the AIM 3.0 Model and the AIM 3.0 Library. The previous version of the toolkit, 2.01, was released in May 2010.

The AIM 3.0 Model now captures the following:

- Anatomic entity characteristic
- Inference (a conclusion derived by interpreting an imaging study and/or medical history)
- Annotation role (description of the role of referenced annotation)

- AIM status (status of an annotation instance using coded term, a version of annotation instance and an update authorization)
- Characteristic quantification (numerical or non-numerical)

The AIM Library 3.0 is a reusable programming component that implements the AIM schema. The AIM Library is written in C++, using DCMTK and Xerces for DICOM, and XML creation and manipulation. The library has two logical components: implementation of the AIM Schema as an AIM object model, and definition of transformations that can be performed on the AIM object model. The ANIVATR tool is included as part of the library and shows how the library can be employed by a software application. The ANIVATR tool is used for validating AIM annotations and transcoding between AIM XML and AIM DICOM SR.

A reference implementation of the AIM 3.0 model, AIM on ClearCanvas® Workstation, was released in March 2011. It is written in C++. AIM on ClearCanvas® Workstation demonstrates how the AIM model and the AIM library can be applied in a real imaging diagnostic workstation. You can use AIM on ClearCanvas® Workstation to create AIM XML documents and AIM DICOM SR objects that adhere to the AIM 3.0 Model. You can also import a new AIM template XML document that represents a set of controlled questions and answers for each question. Typical users want to make simple and constrained annotations that are reproducible and consistent for the same kind of imaging study. For more information, see the caBIG® tool summary page for AIM on ClearCanvas® Workstation.

Return to the Contents of this Page

At-a-Glance Details

caBIG® AIM Data Model and Toolkit

- Current Version Number: 3.0
- Release Date of Current Version: October 2010
- Intended Audiences: Investigators/researchers/implementers, workstation vendors, clinicians interpreting and manipulating images
- Primary Workspace: IMAG
- Currently caGrid Enabled: Yes
- caBIG® compatibility Level: Legacy

Learn more about compatibility levels

Return to the Contents of this Page

Technical Information

- Tool Maturity Assessment: Mature Product (Successfully Adopted)
- Architecture Level: Other or not applicable
- Installation Level: Advanced; technical team required for installation

Return to the Contents of this Page

System Requirements

- MS Windows 2000 or better, 512 MB RAM or better
- MS Visual Studio 2005 (SP1)
- Source code available. Binaries available for Windows

Return to the Contents of this Page

Presentations, Demos and Other Materials

None listed at this time.

Return to the Contents of this Page

Documentation and Training

Access the caBIG® Learning Management System to learn about training programs, register for classes, track progress, and stay informed about training offerings. Explore the catalog to see what is available. You will need to create an account before registering for classes.

- AIM Model, including the terms and concepts
- AIM Template Manager User's Guide
- AIM on ClearCanvas® Workstation 3.0.3 User's Guide
- AIM CDEs
- AIM Template Software Setup Manual
- AIM Data Service Installation Manual

Return to the Contents of this Page

AIM Knowledge Base

The Imaging Knowledge Center is building the knowledge base for AIM. Coming soon will be answers to the most frequently asked questions, tutorials, supporting data, case studies, and scheduled training demonstrations.

- AIM Citations

Return to the Contents of this Page

Installation and Downloads

- AIM 3.0 Workstation
- AIM 3.0 Model - XMI and XML Schema
- AIM 3.0 Data Service
- AIM Template Manager
- AIM on ClearCanvas® Workstation 3.0.2
- Vmware Template with AIME Installed Along with Pre-Requisite caGrid Infrastructure
- Vmware player

Return to the Contents of this Page

Forums and Support for AIM

- End User Forum
- Developer Forum
- NCI CBIIT Application Support email
- Imaging Workspace Coordinator email

Return to the Contents of this Page

Submit Defects and feature requests on AIM

- Submit a defect or feature request for Annotation Imaging Markup (AIM) Enterprise Service
- Submit a defect or feature request for AIM Information Markup Model
- Submit a defect or feature request for AIM Workstation

Return to the Contents of this Page

Open Source Development

- AIM Developer Forum

Return to the Contents of this Page